



UNIVERSITÄTSKLINIKUM
AACHEN

Institut für Physiologie

Univ.-Prof. Dr. Andreas Lückhoff

Univ.-Prof. em. Dr. Holger Schmid-Schönbein

Pauwelsstr. 30
52074 Aachen

Tel.: (0241) 80 88 800

Fax: (0241) 80 82 434

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To whom it may concern

Rational hemorheological therapy is based on the hypothesis, that the modification of blood fluidity improves the perfusion and thus e.g. the oxygen supply of organs and tissues. This is for instance based on physical laws such as Hagen-Poiseuille's law, the Fahraeus-Lindquist effect and others. A broad range of conventional therapeutic possibilities do exist such as changes of lifestyle (e.g. physical activity, diet), drug therapy and hemodilution. The introduction of extracorporeal hemorheotherapy e.g. cytoapheresis and plasmapheresis opened a new dimension of efficacy for the treatment of diseases of the macro- and microcirculation. Nevertheless, these therapies suffer from essential drawbacks being unselective, accompanied with a loss of disease unrelated blood components and associated with the potential risk of a transfer of infectious diseases. Thus, the development of specific procedures such as LDL-apheresis introduced into clinical practice in 1981 from Stoffel, Borberg et al. or selective procedures such as membrane plasma separation as introduced from Inoue, Nosé, Malchewsky and others in 1979 and 1980 were most welcome. However, an essential drawback of these improved technical approaches was, that their influence on the science of hemorheology was never seriously taken into consideration and thus not investigated.


It is the merit of investigators such as Borberg, Brunner and Taubert to conceive and investigate the clinical rheology of such extracorporeal differential separation technologies and to introduce them into the clinical treatment of diseases of the macro- and microcirculation as documented in the US patents No. 6,627,151 B1 and 6,245,038.

Diabetes mellitus is a disease characterized from perfusion problems of the macro- and microcirculation. The first blood purification approach used was from Georgadze et al. applying plasma exchange performed with gravitation-plasmapheresis with simultaneously applied drugs. Rheological investigations using this approach were not performed. Thus, the value of hemorheology for the improvement of the macro- and microcirculation was not investigated and this communication is of no value for the science of hemorheology. Other extracorporeal separation techniques as published from Stoffel, Borberg, Greve in Lancet

1981 or as patented from Malchevsky (US patent 4,350,156 in 1980) do not investigate or mention hemorheology or the technical or clinical relevance for the removal of rheological relevant blood components either.

It can thus be stated that the relevance of differential separation techniques for extracorporeal hemorheotherapy has neither been taken into consideration nor investigated before the patent application of Borberg, Brunner and Taubert for the treatment of diabetic complications, especially the diabetic foot, was filed. Also, as the subsequent development (as published) demonstrates, that it has to be considered an innovative breakthrough for both clinical hemorheology and diabetes treatment.

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Prof. em. H. Schmid-Schönbein
(former Director of the Department of Physiology,
University of Aachen)

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